UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,085	01/22/2004	Giuseppe Di Fabbrizio	2002-0354	6404

26652   7590   09/07/2007
AT&T CORP.
ROOM 2A207
ONE AT&T WAY
BEDMINSTER, NJ 07921

EXAMINER
SHAH, PARAS D

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
09/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)
Office Action Summary		10/763,085	DI FABBRIZIO ET AL.
		Examiner	**Art Unit**	
		Paras Shah	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01/22/2004*.

2a)☐ This action is **FINAL.** 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *01/22/2004 and 08/01/2005*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   This communication is in response to the Application filed on 01/22/2004. Claims

1-21 are pending and have been examined.

Information Disclosure Statement

2.   The information disclosure statement (IDS) submitted on 01/22/2004 and

08/01/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the

information disclosure statement is being considered by the examiner.

Specification

3.   The disclosure is objected to because of the following informalities: "sine" should

be "since" on age 10; [0034], last line.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Abella *et al.* (US 6,044,347) in view of Young ("Dialog Structure and Plan Recognition in

Spontaneous Spoken Dialog", 1993).

As to claims 1, 14, and 18 Young *et al.* discloses,

a disambiguation method in a spoken dialog service (see col. 6, lines 34-45) that identifies a user need (see col. 7, lines 45-46), the disambiguation method being associated with a rooted tree (see Figure 4), the method comprising:

(a) based on a received user utterance in response to a prompt (see col. 4, lines 43-44), establishing at least one lit node and assigning a current focus node (see col. 9, lines 41-44 and lines 50-67) (e.g. From the former cited section, a tree based approach is used by the dialog manager. The latter citation develops an example. The use of the lit nodes and focused nodes is implied by the reference when used with a tree based hierarchical structure. The example shows multiple occurrences of Atlantic City. The user is asked whether Atlantic City is a movie, which is a focus node, and the lit node being the movie and location headings as seen in Figure 4).

(c) if there is not a single direct descendent of the current focus node that is lit:

(1) assigning a lowest common ancestor node of all lit nodes as a new focus node (see col. 9, lines 41-44 and lines 50-67)e.g. From the example illustrated, since there is no direct descendent, the user is prompted and the focus node is moved to the heading movie.);

(2) prompting the user for input to disambiguate between descendent nodes of the new focus node (see col. 9, lines 41-44 and lines 50-67); and

(3) returning to step (a) (e.g. Since the user has helped in the disambiguation, it is implied that the system will reset or end).

However, Abella *et al.* does not specifically disclose the descendents of the focus node.

Young discloses

(b) if there is a single direct descendent of the focus node that is lit (see page 7, sect. 4, 1st paragraph, and bullets 1-10) (e.g. It is implied by the reference that as each new question is being asked the focus node is changing. As seen the focus node changes from pizza, slices, and toppings (*see page 9, last paragraph).

(1) assigning the lit direct descendent of the current focus node as a new focus node (see Figure 9, last paragraph) (e.g. The transition from one attribute to another regarding the pizza changes the focus of the dialog).;

(2) if the new focus node is a leaf node, identifying the user need (see sect. 4, 1st paragraph, and bullets 3-10) (e.g. The size of the pizza is determined where the size is the leaf node and requesting from the user size type desired).

(3) if the new focus node is not a leaf node, prompting the user to disambiguate between descendent nodes of the new focus node and

returning to step (a). (see sect. 2.1, example, types of olives for toppings

is requested from the user and disambiguation has taken place to

determine which olives the user desires.);

It would have been obvious to one of ordinary skilled in the art at the time

the invention was made to have modified the dialogue management system

using a tree based structure as taught by Abella *et al.* with the inclusion of leaf

nodes as taught by Young. The motivation to have combined the two references

involves the clarification of the attribute that is active (see Young, pages 7, sect.

4, last paragraph-page 8, lines 1-9 and last paragraph).

As to claims 2, 15, and 19 Abella *et al.* and Young discloses wherein,

if after step (a), only one lit node exists that is not a direct descendent of

the focus node, and the one lit node is a leaf node (see Abella *et al.,* Figure and

col. 9, lines 41-44 and lines 50-67) (e.g. From the cited portions, term "Atlantic

City" is searched, which is not a direct descendent of the focus node, element 60

of Figure 4), the method further comprises:

(d) identifying the user need according to the lit leaf node (see Abella *et

al.,*col. 9, lines 61) (e.g. The user is asked whether the term "Atlantic City" is a

location or a movie title.)

As to claims 3, 16, and 20 Abella *et al.* and Young discloses wherein,

wherein if only one lit node exists that is not a direct descendent of the

focus node and the one lit node is a leaf node, the method further comprises

presenting information to the user regarding a condition of the lit leaf node (see

Abella *et al.,* col. 9, lines 61) (e.g. The user is asked whether the term "Atlantic

City" is a location or a movie title.)

As to claims 4, 17, and 21 Abella *et al.* discloses

wherein a first prompt to the user is associated with a root node of a

rooted tree (see Abella *et al.,* Figure 4 (element 60 is a root node, with the

subsequent nodes below as a rooted tree).

As to claims 5 and 10, Abella *et al.* discloses

a dialog manager within a spoken dialog service, the dialog manager

operating according to a dialog disambiguation rooted tree, the rooted tree

having a root node, nodes descending from the root nodes organized in

categories and leaf nodes, the dialog manager performing the steps:

(a) gathering input from a user to match (see col. 4, lines 43-44), with at

least one node and node condition, wherein a first prompt from the dialog

manager relates to a focus root node(see col. 9, lines 41-44 and lines 50-67)

(e.g. From the former cited section, a tree based approach is used by the dialog

manager. The latter citation develops an example. The use of the lit nodes and

focused nodes is implied by the reference when used with a tree based

hierarchical structure. The example shows multiple occurrences of Atlantic City.
The user is asked whether Atlantic City is a movie, which is a focus node, and
the lit node being the movie and location headings as seen in Figure 4).

(b) lighting at least one relevant node according to the received user input
(see col. 9, lines 41-44 and lines 50-67);

(c) generalizing by attempting to select a new focus node further from a
current focus node (see col. 9, lines 41-44 and lines 50-67) by:

(2) assigning a lowest common ancestor node as a new focus node
if there are multiple descendent nodes that are lit and step (c)(1) does not
apply (see col. 9, lines 41-44 and lines 50-67) (e.g. From the example
illustrated, since there are multiple descendent nodes with the information
"Atlantic City".);

However. Abella et al. does not specifically disclose the assigning of a
focus node if it is a direct descendent of the focus node previously.

Young discloses,

(1) assigning a node as a new focus node if it is the only lit direct descendent of a
focus node after step (see Figure 9, last paragraph) (e.g. The transition from one
attribute to another regarding the pizza changes the focus of the dialog).

It would have been obvious to one of ordinary skilled in the art at the time
the invention was made to have modified the dialogue management system
using a tree based structure as taught by Abella et al. with the inclusion of focus
node assignment as taught by Young. The motivation to have combined the two

references involves the clarification of the attribute that is active (see Young,

pages 7, sect. 4, last paragraph-page 8, lines 1-9 and last paragraph).

As to claims 6 and 11, Abella *et al.* and Young discloses

    wherein step (c)(1) further comprises: if the new focus node is a leaf node,

identifying the user need (see Young, sect. 4, 1st paragraph, and bullets 3-10)

(e.g. The size of the pizza is determined where the size is the leaf node and

requesting from the user size type desired); and if the new focus nodes is not a

leaf node, prompting the user to disambiguate between descendent nodes of the

new focus node and returning to step (b) (see Young, sect. 2.1, example, types

of olives for toppings is requested from the user and disambiguation has taken

place to determine which olives the user desires.);

As to claim 7, Abella *et al.* and Young discloses

    prompting the user for input to disambiguate between descendent nodes

of the new focus node; and returning to step (b) (see Abella *et al.,* col. 9, lines

41-44 and lines 50-67).

As to claims. 8 and 12, Abella *et al.* and Young discloses wherein,

    if after step (b), only one lit node exists that is not a direct descendent of

the focus node, and the one lit node is a leaf node (see Abella *et al.,* Figure and

col. 9, lines 41-44 and lines 50-67) (e.g. From the cited portions, term "Atlantic

City" is searched, which is not a direct descendent of the focus node, element 60

of Figure 4), the method further comprises: identifying the user need according to

the lit leaf node (see Abella *et al.,* col. 9, lines 61) (e.g. The user is asked

whether the term "Atlantic City" is a location or a movie title.).

As to claims 9 and 13, Abella *et al.* and Young discloses wherein,

wherein if only one lit node exists that is not a direct descendent of the

focus node and the one lit node is a leaf node, the method further comprises

presenting information to the user regarding a condition of the lit leaf node (see

Abella *et al.,* col. 9, lines 61) (e.g. The user is asked whether the term "Atlantic

City" is a location or a movie title).

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Wang *et al.* (US 6,505,162) is cited to teach a dialogue management system

using a hierarchical tree for managing dialog state. Abella *et al.* (US 7,139,717) is cited

to disclose a spoken dialog system pertinent to dialog management. Zhang *et al.* (US

2002/0077815) is cited to disclose discloses an information search method for dialog

systems using category tree. Ammicht *et al.* (US 2003/0233230) is cited to disclose

discloses the resolution of ambiguity in spoken language system using tree.

Agarwal (EP 0895396) is cited to disclose a spoken dialog system using states.

The NPL documents by Chu-Carroll *et al.* ("Dialogue management in vector-based call routing") cited to disclose call routing and disambiguation. Grosz ("The Representation and Use of Focus in Dialogue Understanding") is cited to disclose the use of focus in dialog systems. Rudnicky *et al.* ("An Agenda-based dialog management architecture for Spoken Language Systems") is cited to disclose a dialog system and bringing topics into focus. Lin *et al.* ("Consistent Dialogue Across Concurrent Topics Based on an Expert System Model") is cited to disclose a dialog system for multiple topics using a plan-based approach.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paras Shah whose telephone number is (571)270-1650. The examiner can normally be reached on MON.-THURS. 7:30a.m.-4:00p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Edouard can be reached on (571)272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

P.S.

08/13/2007

PATRICK N. EDOUARD
SUPERVISORY PATENT EXAMINER